

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A non-invasive health monitor device for physiological monitoring of body motion to obtain a measure of variability comprising:

a processor;

a processor readable storage medium;

code recorded in the processor readable storage medium to create a first array of body motion events data based on discretely recorded body motions ~~time events~~ in which each element of the first array is representative of a time when ~~an~~ a body motion event took place;

code recorded in the processor readable storage medium to create a ~~second~~ body motion period interval array ~~of data~~ in which each element ~~of the second array~~ is ~~an~~ a body motion interval representative of the difference between successive elements of the first array of body motion events;

code recorded in the processor readable storage medium to create a ~~third~~ delta body motion period interval array ~~of data~~ in which each element ~~of the third array~~ is a delta body motion period interval representative of the difference between successive elements of the ~~second body motion period interval~~ array;

code recorded in the processor readable storage medium to perform a fast fourier transform (FFT) to obtain power spectrum data representative of the ~~third~~ delta body motion period interval array; and

code recorded in the processor readable storage medium to integrate the power spectrum data over frequency ranges of interest to obtain discrete power values for said frequency ranges of interest.

Claim 2 (original): A non-invasive health monitor device to assist in cardiac evaluation comprising:

a processor;

a processor readable storage medium;

code recorded in the processor readable storage medium to create a first array of heart vibrations based on discretely recorded heartbeats in which each element of the first array is representative of a time when a heartbeat took place;

code recorded in the processor readable storage medium to create a heart period array in which each element is a heart period interval representative of the difference between successive heartbeats of the first array of heart vibrations;

code recorded in the processor readable storage medium to create a delta heart period interval array in which each element is a delta heart period interval representative of the difference between successive elements of the heart period interval array;

code recorded in the processor readable storage medium to perform a fast fourier transform (FFT) to obtain power spectrum data representative of the delta heart period interval array; and

code recorded in the processor readable storage medium to integrate the power spectrum data over one or more frequency ranges of interest to obtain discrete power values for said one or more frequency ranges of interest.

Claim 3 (original): The non-invasive health monitor device of claim 2 wherein the frequency ranges of interest include a low frequency (LF) range, a high frequency (HF) range, and a very high frequency (VHF) range.

Claim 4 (original): The non-invasive health monitor device of claim 3 further comprising:

code recorded in the processor readable storage medium to calculate a total power, TP, value that is the sum of the LF, HF, and VHF power values.

Claim 5 (original): The non-invasive health monitor device of claim 3 further comprising:

code recorded in the processor readable storage medium to calculate a power ratio value that is equal to LF/HF.

Claim 6 (original): The non-invasive health monitor device of claim 4 further comprising:

code recorded in the processor readable storage medium to calculate a normalized LF power value that is equal to LF/TP .

Claim 7 (original): The non-invasive health monitor device of claim 4 further comprising:
code recorded in the processor readable storage medium to calculate a normalized HF power value that is equal to HF/TP .

Claim 8 (original): The non-invasive health monitor device of claim 4 further comprising:
code recorded in the processor readable storage medium to calculate a normalized VHF power value that is equal to VHF/TP .

Claim 9 (original): The non-invasive health monitor device of claim 3 wherein the LF range is approximately 0.04 to 0.15 Hz.

Claim 10 (original): The non-invasive health monitor device of claim 3 wherein the HF range is approximately 0.15 to 0.4 Hz.

Claim 11 (original): The non-invasive health monitor device of claim 3 wherein the VHF range is approximately 0.4 to 1.0 Hz.

Claim 12 (original): A non-invasive health monitor device to assist in respiration evaluation comprising:

- a processor;

- a processor readable storage medium;

- code recorded in the processor readable storage medium to create a first array of respiration events based on discretely recorded body motions in which each element of the first array is representative of a time when a respiration event took place;

- code recorded in the processor readable storage medium to create a respiration period interval array in which each element is a respiration period interval representative of the difference between successive elements of the first array of respiration events;

code recorded in the processor readable storage medium to create a delta respiration period interval array in which each element is a delta respiration period interval representative of the difference between successive elements of the respiration period interval array;

code recorded in the processor readable storage medium to perform a fast fourier transform (FFT) to obtain power spectrum data representative of the delta respiration period interval array; and

code recorded in the processor readable storage medium to integrate the power spectrum data over a defined range of interest to obtain a discrete power value.

Claim 13 (original): A non-invasive health monitor device to assist in cardiac evaluation comprising:

a processor;

a processor readable storage medium;

code recorded in the processor readable storage medium to create an array of first heart vibrations based on discretely recorded heartbeats in which each element of the first array is representative of a time when a first heart vibration of a heartbeat took place;

code recorded in the processor readable storage medium to create an array of second heart vibrations having an element to element association with the array of first heart vibration, said array of second heart vibrations representative of a time when a second heart vibration of a heartbeat took place;

code recorded in the processor readable storage medium to create a ventricular systole interval array in which each element is an interval representative of the time difference between the second and first heart vibrations of each heartbeat in the second and first heart vibration arrays;

code recorded in the processor readable storage medium to create a delta ventricular systole interval array in which each element is a delta ventricular systole interval representative of the difference between successive elements of the ventricular systole interval array;

code recorded in the processor readable storage medium to perform a fast fourier transform (FFT) to obtain power spectrum data representative of the delta ventricular systole interval array; and

code recorded in the processor readable storage medium to integrate the power spectrum data over one or more frequency ranges of interest to obtain discrete power values for said one or more frequency ranges of interest.

Claim 14 (original): The non-invasive health monitor device of claim 13 wherein the power spectrum frequency ranges of interest include a low frequency (LF) range, a high frequency (HF) range, and a very high frequency (VHF) range.

Claim 15 (original): The non-invasive health monitor device of claim 14 further comprising:
code recorded in the processor readable storage medium to calculate a total power, TP, value that is the sum of the LF, HF, and VHF power values.

Claim 16 (currently amended): The non-invasive health monitor device of claim 14 ~~16~~ further comprising:

code recorded in the processor readable storage medium to calculate a power ratio value that is equal to LF/HF.

Claim 17 (original): The non-invasive health monitor device of claim 15 further comprising:
code recorded in the processor readable storage medium to calculate a normalized LF power value that is equal to LF/TP.

Claim 18 (original): The non-invasive health monitor device of claim 15 further comprising:
code recorded in the processor readable storage medium to calculate a normalized HF power value that is equal to HF/TP.

Claim 19 (original): The non-invasive health monitor device of claim 15 further comprising:

code recorded in the processor readable storage medium to calculate a normalized VHF power value that is equal to VHF/TP.

Claim 20 (original): The non-invasive health monitor device of claim 14 wherein the LF range is approximately 0 to 0.15 Hz.

Claim 21 (original): The non-invasive health monitor device of claim 14 wherein the HF range is approximately 0.15 to 0.4 Hz.

Claim 22 (original): The non-invasive health monitor device of claim 14 wherein the VHF range is approximately 0.4 to 1.0 Hz.

Claim 23 (currently amended): A non-invasive health monitor device for physiological monitoring of body motion to obtain a measure of variability comprising:

a processor;

a processor readable storage medium;

code recorded in the processor readable storage medium to create a first array of body motion events data on discretely recorded body motions time events in which each element of the first array is representative of a time when an a body motion event took place;

code recorded in the processor readable storage medium to create a second body motion period interval array of data in which each element of the second array is an a body motion interval representative of the difference between successive elements of the first array of body motion events;

code recorded in the processor readable storage medium to create a third delta body motion period interval array of data in which each element of the third array is a delta body motion period interval representative of the difference between non-successive elements of the second body motion period interval array;

code recorded in the processor readable storage medium to perform a fast fourier transform (FFT) to obtain power spectrum data representative of the third delta body motion period interval array; and

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code recorded in the processor readable storage medium to integrate the power spectrum data over frequency ranges of interest to obtain discrete power values for said frequency ranges of interest.

Claims 24-47 (canceled)